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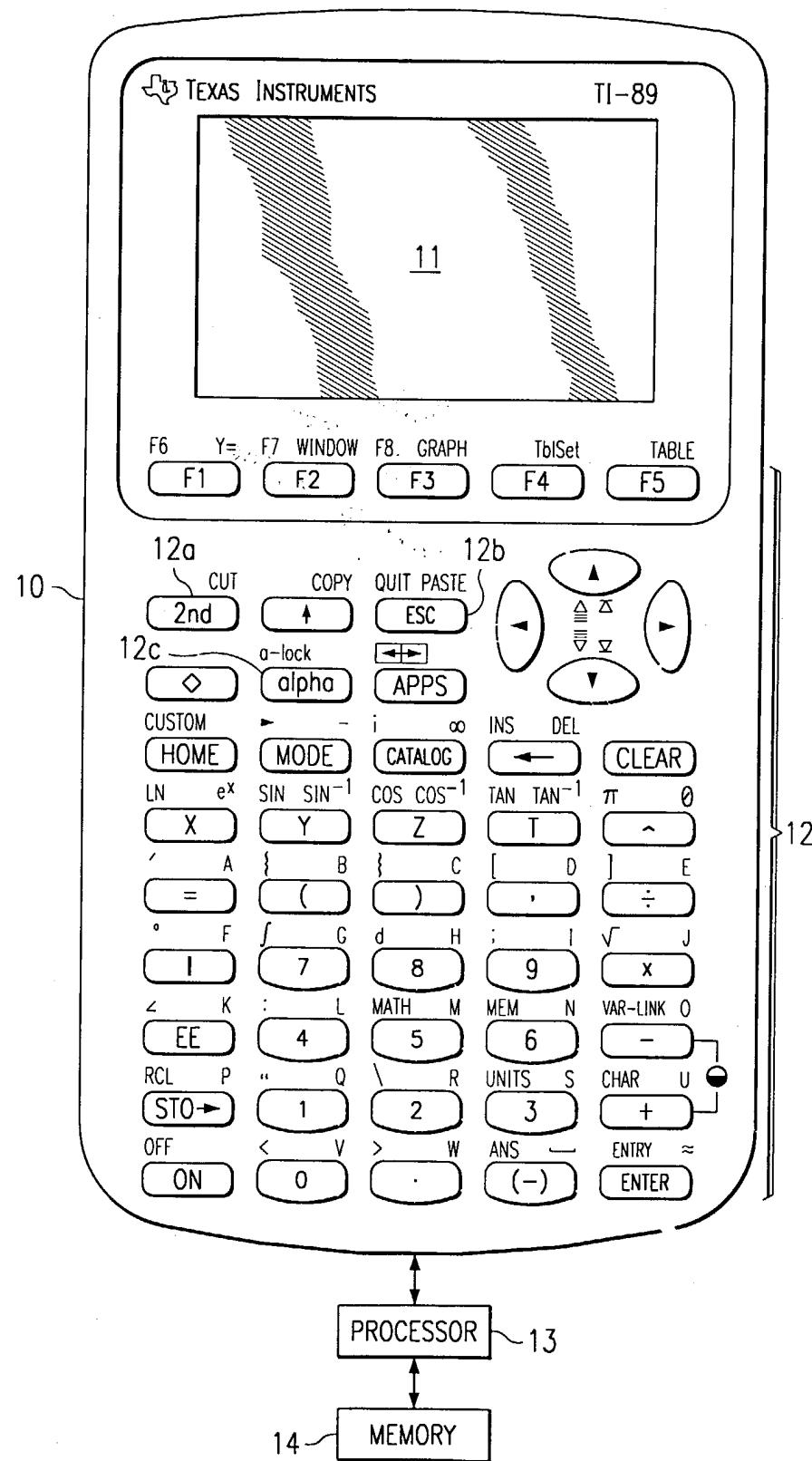
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FIG. 1
(PRIOR ART)





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102 F1▼ F2▼ F3 [a]+b F4 Trans F5 F6▼ F7▼ Tools

104 P1: Solve for x

106 $x^2 - 3 \cdot x = 4$

108

110 MAIN RAD AUTO FUNC 1/1

FIG. 2a

SELECT TRANSFORMATION

$x^2 - 3 \cdot x = 4$

1: add ? to each side
2: multiply each side by ?
3: switch sides
4: factor left-hand side
5: complete the square
6: enter subexpr selection

TYPE OR USE ← → ↑ ↓ + [ENTER] OR [ESC]

FIG. 2b

F1▼ F2▼ F3 [a]+b F4 Trans F5 F6▼ F7▼ Tools

P1: Solve for x

add ? to each side

$x^2 - 3 \cdot x = 4$

? = -4

Enter=OK ESC=CANCEL

MAIN RAD AUTO FUNC 1/1

FIG. 2c



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F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x = 4$							
► add -4 to each side							
Press <ENTER>							
MAIN	RAD	AUTO	FUNC		PAUSE		

FIG. 2d

F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x = 4$							
► add -4 to each side							
$x^2 - 3 \cdot x + -4 = 4 + -4$							
MAIN	RAD	AUTO	FUNC		1/1		

FIG. 2e

F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools	
P1: Solve for x							
$x^2 - 3 \cdot x = 4$							
► add -4 to each side							
$x^2 - 3 \cdot x + -4 = 4 + -4$							
► simplify							
Press <ENTER>							
MAIN	RAD	AUTO	FUNC		PAUSE		

FIG. 2f



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F1▼	F2▼	F3	F4	F5	F6▼	F7▼	
Prob Set	Prob	a+b	Trans		?	Tools	

P1: Solve for x

$$x^2 - 3 \cdot x = 4$$

► add -4 to each side

$$x^2 - 3 \cdot x + -4 = 4 + -4$$

► simplify

$$x^2 - 3 \cdot x - 4 = 0$$

MAIN RAD AUTO FUNC 1/1

FIG. 2g

SELECT TRANSFORMATION

$$x^2 - 3 \cdot x - 4 = 0$$

1: add ? to each side
 2: multiply each side by ?
 3: switch sides
 4: factor left-hand side
 5: quadratic formula
 6: enter subexpr selection

MAIN RAD AUTO FUNC 1/1

FIG. 2h

F1▼	F2▼	F3	F4	F5	F6▼	F7▼	
Prob Set	Prob	a+b	Trans		?	Tools	

P1: Solve for x

$$x^2 - 3 \cdot x + -4 = 4 + -4$$

► simplify

$$x^2 - 3 \cdot x - 4 = 0$$

► factor left-hand side

$$(x - 4) \cdot (x + 1) = 0$$

MAIN RAD AUTO FUNC 1/1

FIG. 2i



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SELECT TRANSFORMATION

$(x-4) \cdot (x+1) = 0$

1: add ? to each side
 2: multiply each side by ?
 3: switch sides
 4: $A \cdot B = 0 \rightarrow A = 0 \text{ or } B = 0$
 5: distribute multiplication
 6: $(A+B) \cdot C \rightarrow A \cdot C \pm B \cdot C$
 7: $A \cdot (B \pm C) \rightarrow A \cdot B \pm A \cdot C$

MAIN	RAD AUTO	FUNC	1/1
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FIG. 2j

F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
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P1: Solve for x

$x^2 - 3 \cdot x - 4 = 0$
 ► factor left-hand side
 $(x-4) \cdot (x+1) = 0$
 ► $A \cdot B = 0 \rightarrow A = 0 \text{ or } B = 0$
 $x-4=0 \text{ or } x+1=0$

MAIN	RAD AUTO	FUNC	1/1
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FIG. 2k

SELECT TRANSFORMATION

$x-4=0 \text{ or } x+1=0$

1: solve linear equation
 2: enter subexpr selection

TYPE OR USE $\leftarrow \rightarrow \uparrow \downarrow +$ [ENTER] OR [ESC]

FIG. 2l



F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
P1: Solve for x						
$(x-4) \cdot (x+1) = 0$						
► A · B = 0 → A = 0 or B = 0						
$x-4=0$ or $x+1=0$						
► solve linear equation						
$x=4$ or $x=-1$						
MAIN	RAD AUTO	FUNC		1/1		

FIG. 2m

F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
P1: Solve for x						
$x^2 - 3 \cdot x - 4 = 0$						
► quadratic formula						
$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ or ►						
MAIN	RAD AUTO	FUNC		1/1		

FIG. 2n

F1▼ Prob Set	F2▼ Prob	F3 a+b	F4 Trans	F5	F6▼ ?	F7▼ Tools
P1: Solve for x						
► quadratic formula						
$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ or ►						
► simplify						
$x=4$ or $x=-1$						
MAIN	RAD AUTO	FUNC		1/1		

FIG. 2o

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F1▼ F2▼ F3 a+b F4 Trans F5 F6▼ F7▼
 Prob Set Prob ? Tools

P3: Solve for x

$x^2 - 3 \cdot x = 4$
 ► add -4 to each side
 $x^2 - 3 \cdot x + -4 = 4 + -4$
 ► simplify

114 $x^2 - 3 \cdot x - 4 = 0$

116 Use ←, →, ↓, ↑, Shift ←, Shift →, ESC, F3, F4, F7

FIG. 3a

SELECT TRANSFORMATION

$x^2 - 3 \cdot x - 4$

1:factor
 2: $A - B \rightarrow A + -B$
 3:exit subexpr selection
 4:rewrite as ?

TYPE OR USE ← → ↑ ↓ + [ENTER] OR [ESC]

FIG. 3b

F1▼ F2▼ F3 a+b F4 Trans F5 F6▼ F7▼
 Prob Set Prob ? Tools

P3: Solve for x

$x^2 - 3 \cdot x = 4$
 ► add -4 to each side
 $x^2 - 3 \cdot x + -4 = 4 + -4$
 ► simplify

$x^2 [-3 \cdot x] - 4 = 0$

MAIN RAD AUTO FUNC 3/3

FIG. 3c

FIG. 3d

SELECT TRANSFORMATION

$-3 \cdot x$

1:arithmetic
 2: $(-A) \cdot B \rightarrow -(A \cdot B)$
 3:arith, -, 0 & 1 ident
 4: $A \cdot B \rightarrow B \cdot A$
 5:exit subexpr selection
 6:rewrite as ?

TYPE OR USE ← → ↑ ↓ + [ENTER] OR [ESC]